

EXTERIOR AIRCRAFT VISION SYSTEM USING A HELMET-MOUNTED DISPLAY

Abstract of the Disclosure

An improved multiple-sensor vision system for use on vehicles or aircraft. The system utilizes a plurality of fixed sensors, such as infrared sensors, that provide signals that are recorded on tape and/or stored in memory. A processor digitally samples the stored images and provides output to a helmet-mounted display. Desirably, the sensors are arrayed in series such that their images may be juxtaposed and blended to provide a wider field-of-view image. A tracking system desirably monitors the head position of the operator, which position is then used to select various images from the processor. In this way, the operator can select various views by simply looking in that direction. In one embodiment, the array of sensors is forward-looking and positioned close to the head position of the operator to minimize parallax issues. In addition to forward-looking sensors, other sensors mounted around the vehicle/aircraft may provide rearward, hemispherical, or complete spherical coverage. Sensors that monitor the status of various instruments on board the vehicle can also provide input to the helmet-mounted display, including a moving map tile that is displayed below or to the side of the main image.